

Application No.: 10/765,494
Amendment Dated: October 6, 2005
Reply to the Office Action of July 6, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A method for avoiding ~~vehicular collisions of a ship having a rudder and a rudder control~~, comprising:

monitoring a rudder control of a ~~vehiclesship~~, the rudder control normally being regularly adjusted by the ~~an~~ operator such that the time between adjustments is sufficiently less than the time needed to inhibit a collision after it is no longer controlled by the operator, a time period beginning with an adjustment of the rudder control and ending with a subsequent adjustment, if any, to the rudder control defining an inactivity time period; and

activating a first alarm if ~~the control is not adjusted in a sufficient amount of time from a preceding adjustment~~ an inactivity time period is greater than a predetermined first time period, the predetermined first time period being sufficiently short to prevent a collision of the ship when the rudder is not being controlled.

2. (currently amended) The method of claim 1 further comprising sounding a second alarm if the inactivity time period control continues to not be adjusted for is greater than a second sufficient amount of time period.

3. (currently amended) The method of claim 2 wherein the first alarm is provided to the operator of the ~~vehiclesship~~.

4. (original) The method of claim 3, further comprising disabling the first alarm and continuing to monitor the control in response to a signal from the operator.

Application No.: 10/765,494

Amendment Dated: October 6, 2005

Reply to the Office Action of July 6, 2005

5. (currently amended) The method of claim 4, wherein the second alarm is provided externally to ~~the~~ a vehicle operator compartment to allow the vehicle to be disabled by an entity other than the operator.

6. (original) The method of claim 5, wherein the first alarm is provided in the pilot house of a tug.

7. (currently amended) The method of claim 6, wherein monitoring a rudder control of a ship includes the monitored control is a mechanism for moving a monitoring the rudder of the a tug.

8. (currently amended) A collision avoidance system for a ship having a rudder and a rudder control, comprising:

a sensor for monitoring a ~~vehicle~~ ship rudder control, the sensor providing a signal ~~indicative of whether~~ indicating when the ship rudder control is adjusted; and

a first timer connected to said sensor to receive the provided signal; the timer activating a first alarm if from the provided signal it determines that an excessive amount of time elapses without the ship rudder control being adjusted.

9. (cancelled)

10. (currently amended) The system of claim ~~9~~ 8, wherein the vehicle is a tug, and the sensor is mounted to directly or indirectly monitor movement of a tug rudder.

11. (currently amended) The system of claim 10, wherein the sensor comprises a slotted disk mounted about a steering column and an ~~Optical~~ optical switch operably positioned about the disk to generate a signal when the disk is rotated indicating that the steering column is being adjusted.

Application No.: 10/765,494

Amendment Dated: October 6, 2005

Reply to the Office Action of July 6, 2005

12. (original) The system of claim 8, further comprising a second timer connected to the first timer, the second timer being activated in response to the first timer determining that an excessive amount of time elapsed without the control being adjusted, the second timer activating a second alarm if a preset amount of time elapses before the second timer is deactivated.

13. (original) The system of claim 12, further comprising a docking switch connected to the first timer to disable said first timer upon activation by a user, the first timer remaining deactivated until the control is once again adjusted.

14. (original) A collision avoidance system for a tug having a rudder and a steering system to control the rudder, comprising:

a sensor communicatively linked to the steering system for monitoring adjustment of the rudder, the sensor generating a signal indicative of whether the rudder is adjusted;

a first timer connected to said sensor to receive the generated signal, the first timer activating a first alarm if from the signal it is determined that a first preset amount of time elapses without the rudder being adjusted.

15. (original) The system of claim 14, wherein the sensor comprises a slotted disk mounted about a steering column and an optical switch operably positioned about the disk to generate a signal when the disk is rotated indicating that the steering column is being adjusted.

16. (original) The system of claim 14, wherein the sensor comprises a circuit integrated with a hydraulically actuated rudder control system.

17. (original) The system of claim 14, further comprising a second timer connected to the first timer, the second timer being activated in response to the first timer determining that an

Application No.: 10/765,494
Amendment Dated: October 6, 2005
Reply to the Office Action of July 6, 2005

excessive amount of time elapsed without the rudder being adjusted, the second timer activating a second alarm if a second preset amount of time elapses before the second timer is deactivated.

18. (original) The system of claim 17, further comprising a docking switch connected to the first timer to disable said first timer upon activation by a user, the first timer remaining deactivated until the rudder is once again adjusted.

19. (original) The system of claim 14, wherein the first alarm comprises a device for notifying an operator of the tug that an alarm condition exists, said first alarm device being mounted in a wheel house of the tug.

20. (original) The system of claim 19, further comprising a second alarm mounted outside of the wheel house to notify crew members that an alarm condition exists if the first alarm is not deactivated within a preset amount of time.

21. (new) A method for avoiding collisions of a ship having a rudder and a rudder control, comprising:

monitoring a rudder control of a ship, the rudder control normally being regularly adjusted by an operator, the time period beginning with an adjustment of the rudder control and ending with a subsequent operator action, defining an inactivity time period; and

activating a first alarm if the inactivity time period is greater than a predetermined first time period, the predetermined first time period being sufficiently short to prevent a collision of the ship when the rudder is not being controlled.

22. (new) The method of claim 21 in which the subsequent operator action includes a second adjustment of the rudder control.

Application No.: 10/765,494
Amendment Dated: October 6, 2005
Reply to the Office Action of July 6, 2005

23. (new) The method of claim 21 in which the subsequent operator action includes disabling the alarm and continuing to monitor of the rudder control.

24. (new) A collision avoidance system for a tug having a steering system, comprising:
a sensor communicatively linked to the steering system for monitoring adjustment of the steering system of the tug, the sensor generating a signal indicative of whether the steering system is adjusted; and

a first timer connected to said sensor to receive the generated signal, the first timer activating a first alarm if from the signal it is determined that a first preset amount of time elapses without an operator taking an action.

25. (new) The system of claim 21 in which the first timer activates the first alarm if from the signal it is determined that a first preset amount of time elapses without an operator adjusting the steering system.

26. (new) The method of claim 21 in which the first timer activates the first alarm if from the signal it is determined that a first preset amount of time elapses without an operator disabling the alarm.